

Weekly Report

2018.04.09-2018.04.15

1.This Week

WaveLines major revision

- 1.After carefully reading the review letter, I list the following issues to be revised:
 - compare wavelines with other multivariate time series visualization alternatives, including dynamic heatmaps, bivariate streamgraphs, radial visualizations etc.
 - explain why we choose the design of wavelines
 - explain what's the advantages of the preprocessing steps: which aspects are removed from the data and which hidden aspects are revealed
 - adjust the design process to follow existing design study methodology
 - rewrite related work section 2.3

Power grid with Deeping learning

- 1.Reorganizing the idea of this paper according to the characteristics of the data:
 - incomplete
 - we can generate complete data during simulation but in real cases analysts cannot always get complete information for all devices
 - without topology
 - we cannot get the topological information. The only information we get is the node information, but no edge info. Topology is important bus since it doesn't change, so analysts won't focus to much on it in real cases.
 - multiple fault centers
 - fault happens on edges, but since the only thing we have is nodes, so we may have multiple fault centers
 - multivariate
 - all variables are important, but in cases with different kind of faults, different variables matters.
- These characteristics of data leads to a problem: how to locate a fault with different amount of incomplete information at each time. The paper needs to solve this problem.
- 2.start generate data

Paper Reading

1.Trust, but Verify: Optimistic Visualizations of Approximate Queries for Exploring Big Data (CHI 2017)

Authors propose the concept of optimistic visualization to address the challenge of trust from Sample+Seek based approximate queries. This is achieved by making observations on the approximate results while performing the precise query in the

background and then analysts can verify their observations when the precise result is finished.

This paper supports different interactivities of the sampling, including zooming, transformation, aggregation like all the other exploratory visualizations. To this end, it adopts a measure-biased sampling method based on distribution uncertainty and computes a confidence interval for each group.

(And prepare the presentation of this paper in the human computer interaction course.)

2.Progress

Work	Deadline	Progress
Wavelines revision	5.23	started
Power grid paper with Deeping learning	-	continue to do the unfinished work
Revise the black book	4.30	not started